RMMA Baseline Assessment

Summary Report

April 2019

Town of Superior℠
Gateway to Boulder Valley©

City of Louisville
COLORADO • SINCE 1878

Executive Summary

This report provides a summary of the key findings and conclusions of the baseline assessment conducted to by ABCx2 in an effort to identify solutions to address the increasing overflights and noise impacts affecting communities surrounding the Rocky Mountain Metropolitan Airport (RMMA).

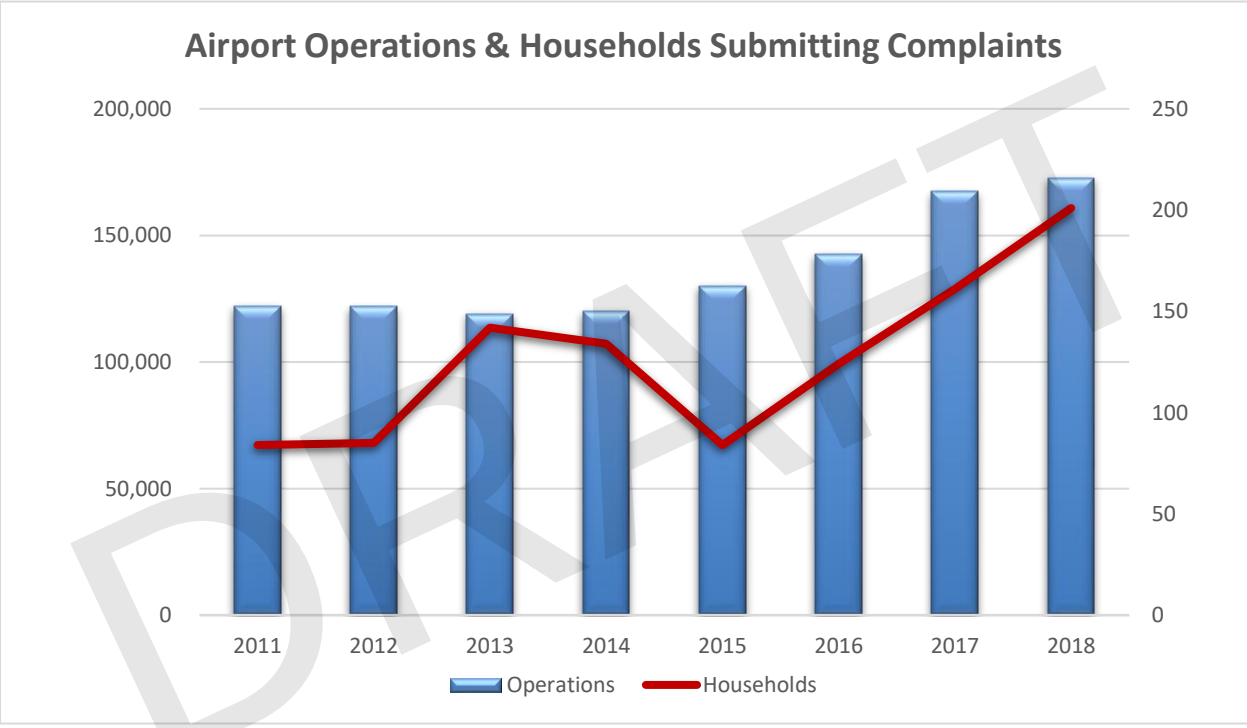
The baseline assessment was one of the first tasks in a work plan developed by the consulting firm, ABCx2, in an effort to understand existing conditions at the airport and impacted communities. The operational analyses included annual operations and trending, aircraft fleet mix, types of operations (i.e. itinerant versus local), operator types, airspace, flight patterns and procedures, and a focused look at the sources of aircraft activity directly impacting the Town of Superior and City of Louisville.

This analysis also included a review of land-uses and zoning around the airport, and the history of the Rock Creek community. Rock Creek is especially impacted by overflights and noise, which mandated a deeper look into the history and existing conditions of this area.

Results of the baseline assessment indicate operations at RMMA have been steadily trending upward, and both airport and Federal Aviation Forecasts suggest this growth will continue. The long-term plans for the airport include both aeronautical and non-aeronautical development, which will facilitate additional flight activity and potentially impacts to close-in communities.

A historical analysis of land-use and zoning around the airport revealed efforts by the Airport and Jefferson County to encourage zoning and development around the airport that would be compatible with expected overflight activity and noise. In many cases, residential development close to the airport and within critical zones (where the final approach and initial climb phases of flight occur), was discouraged. An Airport Influence Area (AIA) was also established and published by Jefferson County to further encourage transparency and to discourage non-compatible development in areas exposed to the greatest impacts. Avigation easements were

required for residential development within the AIA, however, growth of the airport has exceeded early community expectations, resulting in increased community concerns and complaints. The figure below shows the number of airport operations (take-offs and landings) and the number of households submitting complaints each year. The data clearly shows operations have been steadily rising since 2014, as has the number of households submitting complaints.



The work conducted during the baseline assessment included collection and review of community input, work with the airport, RMMA Air Traffic Control Tower, and interaction with staff from Superior and Louisville. An initial list of strategies has been developed. This includes operational procedures, policies and practices, as well community and industry engagement programs. These strategies will be refined and expanded as the work progresses. Ultimately, strategies will be categorized by implementation schedule (i.e. immediate, medium-term, and long-range) and prioritized. The ABCx2 team will work with the appropriate community and industry stakeholders on planning and implementation.

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Introduction

The Rocky Mountain Metropolitan Airport (RMMA) in Broomfield, CO, is bounded by rising terrain to the west and a mix of land-uses to the north, east, and south. The area around the airport includes non-compatible development including residential areas and schools. The airport is becoming increasingly busy, with significant growth in operations over the last 5 years. Forecasts suggest this growth will continue.

As operations increase, noise and other impacts associated with aircraft overflights is also increasing, raising concerns of nearby residents. The Town of Superior and the City of Louisville have hired ABCx2, LLC (consultants) to help identify strategies to address this growing issue.

The consultants were tasked with strengthening collaboration between the Airport, Jefferson County who owns and operates the Airport, and Superior and Louisville, in an effort to identify and implement strategies that will reduce the growing impacts attributed to RMMA.

The approach proposed by ABCx2 starts which an assessment of existing conditions including an analysis of annual operations, flight procedures and airspace, land-uses and zoning, and the existing noise abatement program at the airport. The result of this work is summarized in this Baseline Assessment Summary Report which will provide a starting point for exploring new policies, practices, and procedures, aimed at reducing the community impacts associated RMMA, encouraging sustainable growth for the airport, while maintaining the quality of life for residents living in proximity to RMMA.

Background / History

The Rocky Mountain Metropolitan Airport (RMMA) is located along the northern boundary of Jefferson County, surrounded by residential development with the Town of Superior to the northwest, Louisville to the north, Broomfield on the east and west, and Westminster to the south.

The airport which was opened in 1960 is owned and operated by Jefferson County. Originally named Jefferson County Airport, the name was changed to Rocky Mountain Metropolitan Airport in 2006, reflecting its growth and changing role in the region.

Airport Roles: Local, Regional, National

The Federal Aviation Administration is tasked with maintaining a plan for developing and operating a system of public-use airports in the United States. This plan is referred to as the National Plan of Integrated Airports (NPIAS) and is intended to meet the nation's needs for civil aeronautics and national defense. In support of this mandate, the FAA provides technical and financial support, however, the FAA does not dictate who may use the airport (i.e. which airlines or general aviation aircraft operators), nor does it dictate where privately-owned aircraft can fly. Instead, the FAA is responsible for working with airport operators, state and local governments, and other stakeholders to "ensure effective planning of a safe and efficient system of airports to support the needs of the civil aviation industry" (FAA National Plan of Integrated Airport Systems, 2019-2023). Airports within the NPIAS are eligible for federal funding under the Airport Improvement Program (AIP).

Airports within the NPIAS fall into one of four categories:

- Commercial Service-Primary
- Commercial Service-Nonprimary
- Reliever Airport
- General Aviation Airport

Airports serving general aviation primarily are also categorized based on activity level. The five roles include:

- National
- Regional
- Local
- Basic, and
- Unclassified

RMMA is classified as a **Reliever Airport** with a **National** role. National airports are located in metropolitan areas near major business centers and support air service access throughout the US and internationally. This is the largest category of general aviation facility and considered critical to the regional and national economy and significant entry points within the National Airspace System.

The "Reliever Airport" category indicates the airport relieves congestion at a commercial service airport and to provide more general aviation access to the community. In the context of RMMA, the airport is a reliever to Denver International Airport. Front Range Airport in Aurora and Centennial Airport in Centennial are also classified as reliever airports for Denver International.

Governance

RMMA is owned and operated by Jefferson County. Jefferson County is governed by a Board of County Commissioners which provides strategic direction to the airport. An Airport Advisory Board provides input to the Commission and airport management. The official role of the Airport Advisory Board is to;

> *"Advise the Board of County Commissioners regarding airport matters including serving as a feedback mechanism regarding the Airport, build awareness of the Airport and its role in the economic health of the region, develop Airport advocacy, educate users/tenants/neighbors about operating guidelines, create opportunities to engage the public, and ensure good neighbor practices by the Airport."*

The Airport Advisory Board is made up of seven members plus an alternate. Members include: two neighboring business owners, two Jefferson County residents, one neighboring property owner, one neighboring jurisdiction, and one airport tenant. Day-to-day management and operation of the airport is overseen by an Airport Manager and his staff.

Aviation is highly regulated and RMMA is subject to regulatory and operational requirements imposed by the Federal Aviation Administration, State of Colorado (Department of Transportation) and Jefferson County. Aircraft and flight operations are regulated primarily by the Federal Aviation Administration.

Airport Facilities

RMMA is made up of three runways. The "primary" runway, 12L-30R, is 9000 feet in length and 100 feet wide. The "parallel" runway, 12R-30L is 7000 long and 75 feet wide. And the "crosswind" runway, 3-21, is 3,600 feet long and 75 feet wide. Runway designations are based on their magnetic heading rounded to the nearest 10° with the last 0 dropped. A runway oriented with a 300° compass heading is designated 30. A runway oriented with a 30° heading would be designated as Runway 3.

A letter-designation is used when there are multiple runways with the same heading. For example, if an aircraft is landing on Runway 30, they will fly a heading of 300 degrees and since there are two parallel runways, the "R" is used to designate the runway on the right side. The runway on the left side is designated with an "L", Runway 30L.

The airfield also includes a set of taxiways which provide access between the runways and terminal building, aircraft parking, and other airport facilities and services.

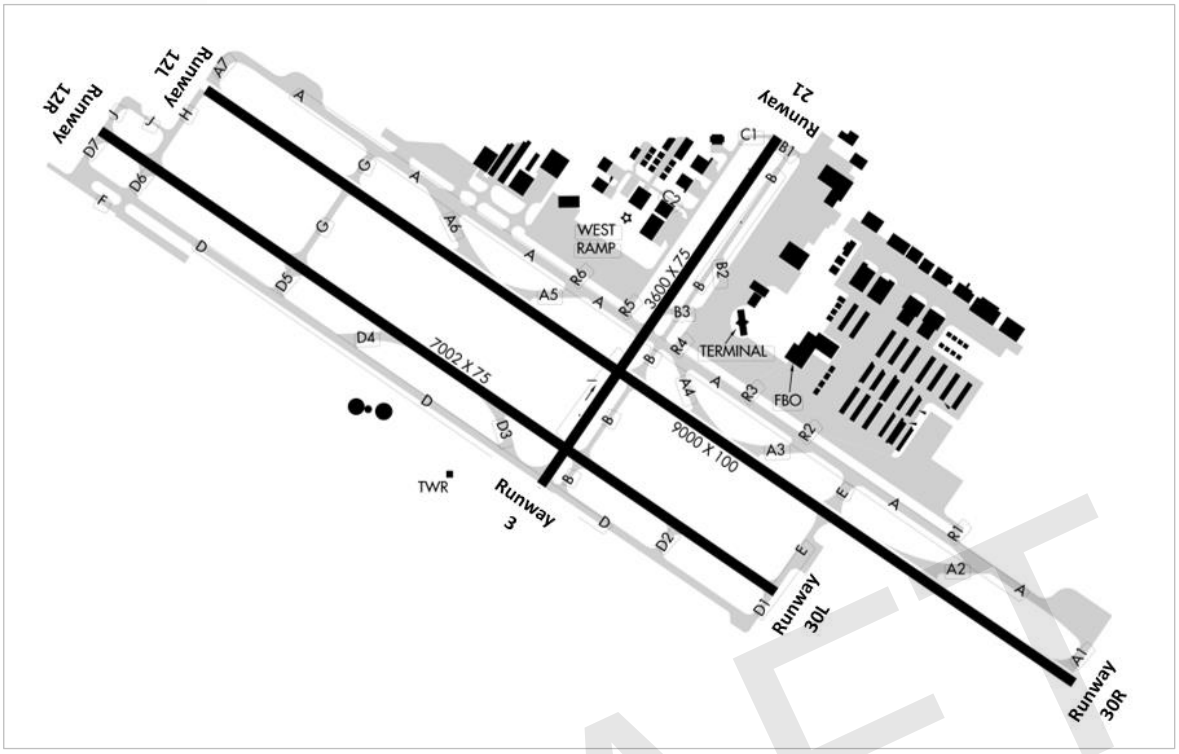


Figure 1. RMMA Airport Layout. (Adapted from RMMA Airport Diagram, Federal Aviation Administration)

Navigational Aids

Navigational aids on the airfield help guide pilots to the airport and during approach and landing. All runways are equipped with Precision Approach Path Indicators (PAPI) systems, which provide visual guidance to pilots during approach and landing. The PAPI consists of four lights adjacent to the runway at the approach end. The system provides the pilot with information about the aircraft position relative to the intended approach path (i.e. aircraft is above or below the approach path).

An Instrument Landing System (ILS) is installed on Runway 30R. An ILS provides highly accurate course, distance, and glidepath information. An ILS is especially important during poor weather conditions where visibility is limited. There is also a VOR/DME approach procedure to Runways 30L and 30R and RNAV (GPS) approaches available to Runways 30L, 30R, and 12L.

Key Airport Tenants and Businesses

Flight Training

Airport operations can be classified in a number of ways. Local versus Itinerant operations refer to the origin or destination of the flight. Flights that remain in the "local" area, that is, in proximity to the airport are classified as "local" operations. "Itinerant" operations are those that originate from outside the local airport (i.e. at another airport) or departures that leave the local area.

Local operations are most common with flight training operations. These include touch-and-goes, low approaches, and airport pattern operations. General aviation activity makes up the majority of operations at RMMA and flight training represents the bulk of those operations. 2018 data is shown in Figure 3 below. For 2018, local operations (i.e. touch-and-goes) made up 56% of total operations.

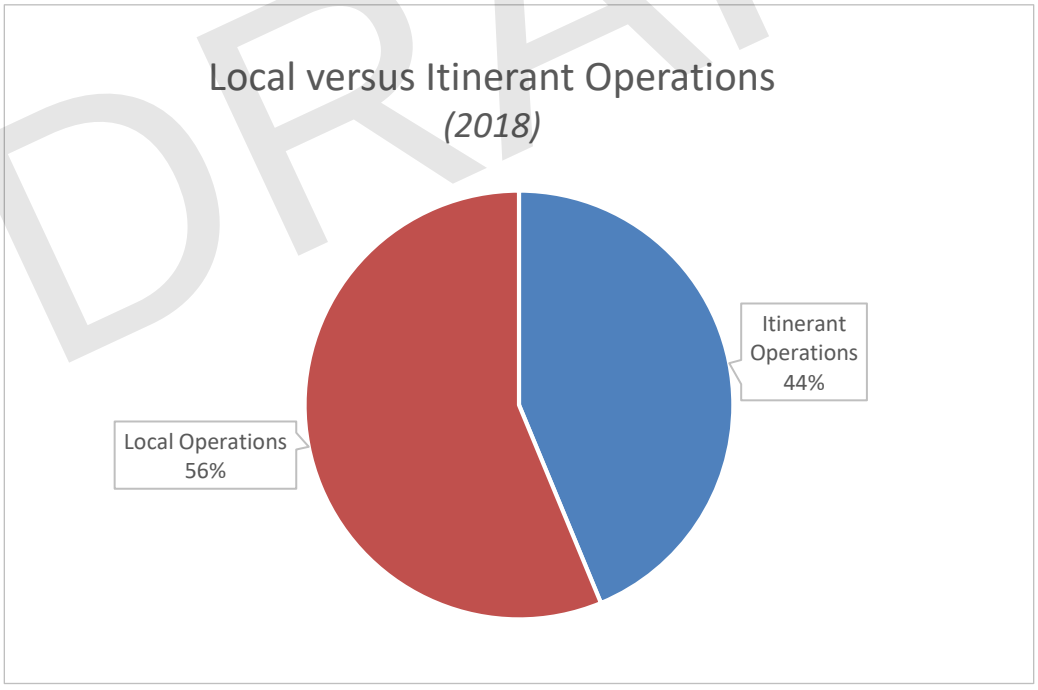


Figure 2. Local versus Itinerant Operations (2018)

As of 2011, there were five fixed-wing (airplane) flight schools and three rotary wing (helicopter) flight schools on the airport. The flight schools include:

Fixed-Wing Flight Training

- Journeys Aviation
- McAir Aviation
- New Attitude Aerobatics
- Western Air Flight Academy
- Rocky Mountain Flight School

Helicopter Flight Training

- Front Range Helicopters
- Rotors of the Rockies
- Colorado Heli-Ops

Fixed Base Operators (FBOs)

Fixed base operators (FBOs) typically provide a variety of aircraft services. Typical services include aircraft fuel, maintenance, aircraft rental, flight charters, flight instruction, aircraft parking, and hangar space. RMMA hosts multiple FBOs including Denver AirCenter, Signature Flight Support, and Sheltair.

Air Charter Services

RMMA is also home to a number of air charter services. These companies provide unscheduled passenger services to airports across the United States and internationally. Flight charter operators based at RMMA include:

- Mountain Aviation
- Colorado By Air
- Denver Air Connection

Other Airport Businesses

In addition to the businesses mentioned, there are a number of additional businesses providing aviation-related services, support businesses, as well as non-aviation organizations. According to the Airport's website, there are close to 70 businesses and tenants located on the airport.

Airspace

RMMA is located approximately 20 miles west of Denver International Airport (DEN) just outside the boundary of DEN's Class B airspace. Figure 3 (below) highlights the airspace around RMMA, Denver Airport to the east, and significant terrain to the west of RMMA. The terrain to the west has a significant impact on flight operations in and out of the airport and limits the flexibility air traffic controllers have in managing the airspace around the airport.

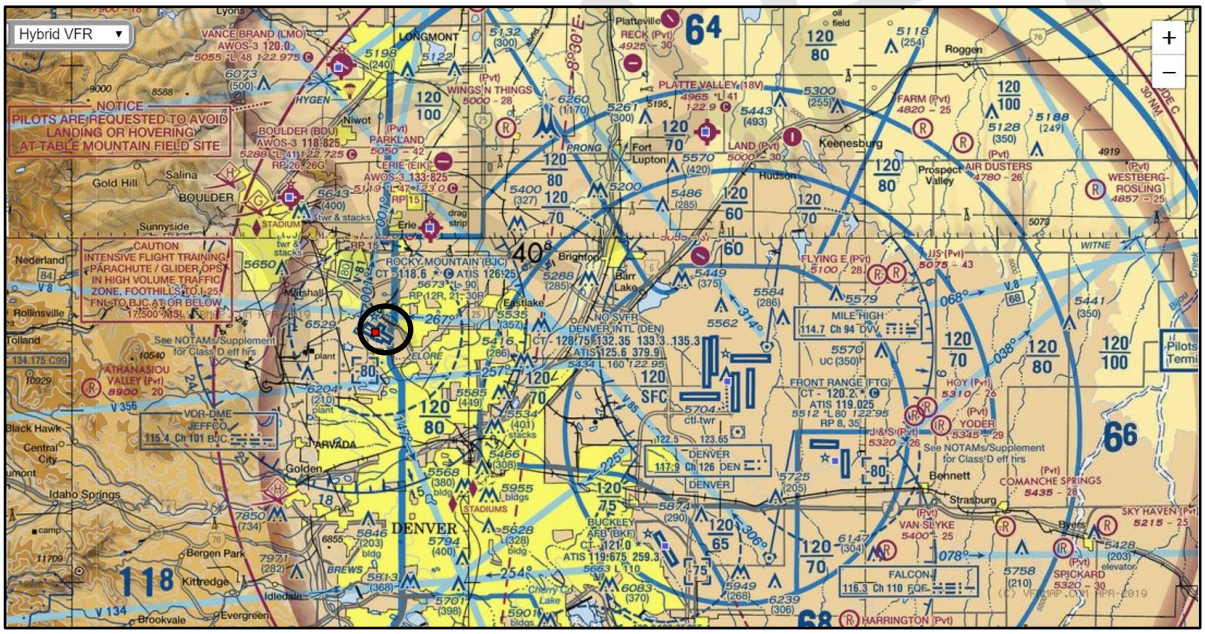


Figure 3: Regional Airspace. *(Source: www.vfrmap.com)*

RMMA is marked with the black ring. The darker colors to the west indicate rising terrain. Denver International Airport is to the east. Class B Airspace is highly regulated airspace which requires approval from ATC to enter.

RMMA operates within Class D airspace when the air traffic control tower is open (6AM-10PM daily). When the control tower is closed, the airspace reverts to Class G at which time, air traffic services are limited.

Ground and Tower air traffic services are provided by FAA at their air traffic control tower based on the airport. Approach and Departure control services are provided by DEN TRACON (air traffic facility located at DEN). Air traffic facilities at both RMMA and Denver International work together to manage aircraft operations in the area and operations to and from RMMA may be impacted by DEN traffic.

Arrival and departure procedures associated with Denver International bring aircraft to and from Denver in the airspace above RMMA. This activity can also impact operations at RMMA.

Annual Operations

Total (Annual) Operations

An "airport operation" can be a landing or a take-off. Training operations such as "touch-and-goes" represent both a landing and a take-off, so a touch-and-go represents two airport operations. Operations at RMMA have been growing over the last five years (2013-2018) FAA forecasts suggests this growth will continue.

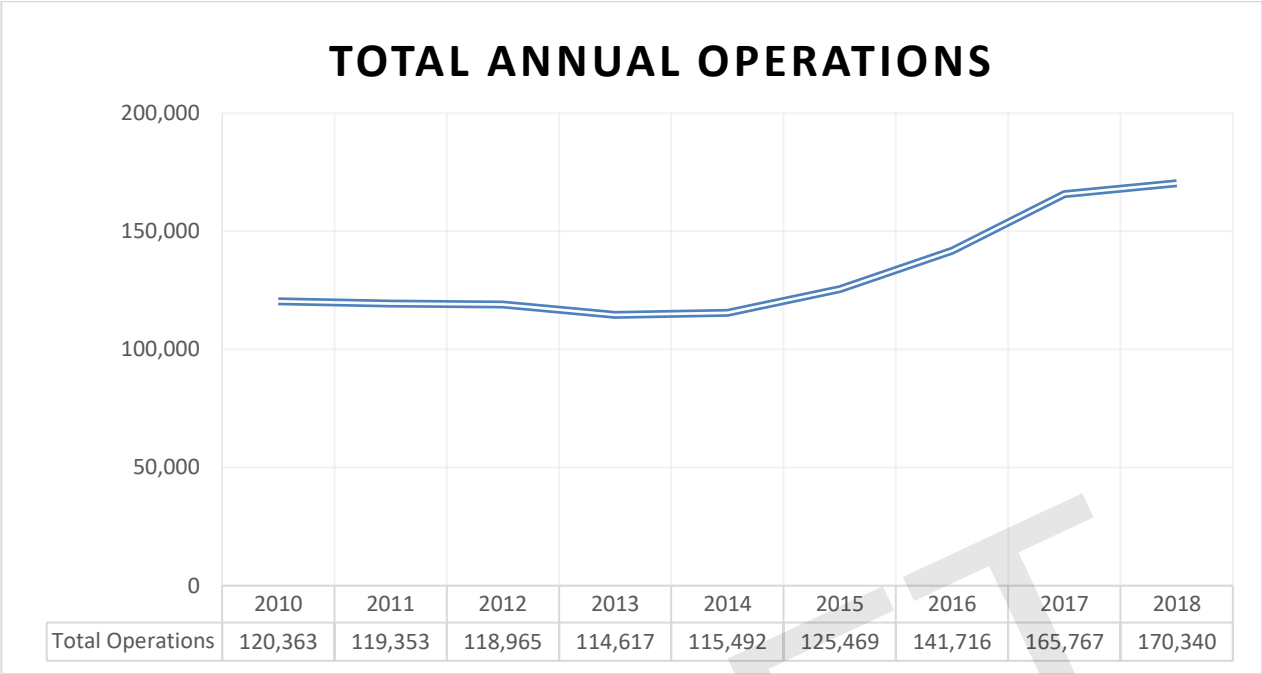


Figure 4. Total Annual Operations, 2010-2018

The FAA quantifies airport operations as either "itinerant" or "local." Itinerant operations include arrivals originating at other airports or outside the local airport traffic pattern and departures that result in the aircraft leaving the local airport traffic pattern (i.e. flying to another airport or outside the local airport traffic pattern). Local operations are those conducted within the airport traffic pattern (i.e. touch-and-goes, practice approaches, and low approaches). Local operations are a common component of flight training and a dominant percentage of the operations at RMMA. A review of annual operations at RMMA shows slow but steady growth in itinerant operations and faster growth in local operations.

FAA categorizes itinerant operations by operator category including air carrier (scheduled passenger service), air taxi (unscheduled/charter), general aviation, and military. Local operations are classified as civil or military. Total Itinerant versus Local operations are shown in Figure 5 below. Total operations are trending upward with local operations growing at a faster rate than itinerant.

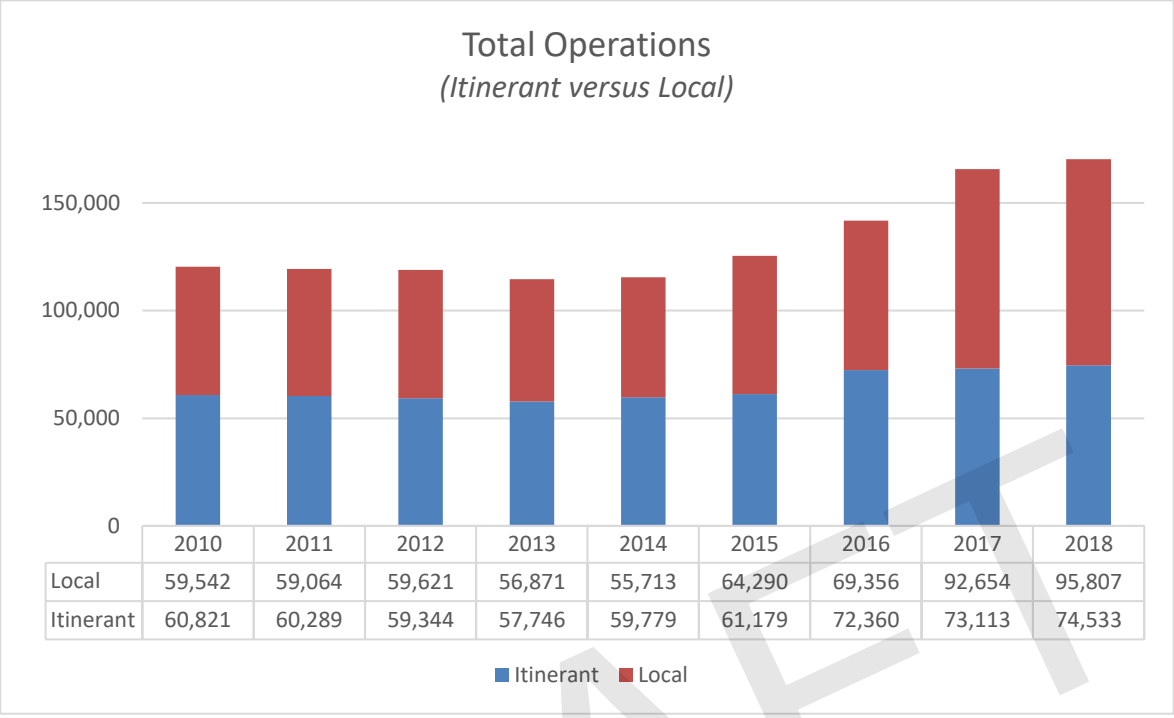


Figure 5: Total Operations – Local versus Itinerant

A nine-year review of the annual operations at RMMA is included in Table 1 below:

	Itinerant					Local			
Calendar Year	Air Carrier	Air Taxi	General Aviation	Military	Total	Civil	Military	Total	Total Operations
2010	9	3,766	56,422	624	60,821	58,441	1,101	59,542	120,363
2011	5	4,601	55,145	538	60,289	58,583	481	59,064	119,353
2012	43	5,819	52,792	690	59,344	58,674	947	59,621	118,965
2013	26	5,279	51,573	868	57,746	55,637	1,234	56,871	114,617
2014	82	5,136	53,268	1,293	59,779	53,032	2,681	55,713	115,492
2015	8	5,524	54,464	1,183	61,179	62,272	2,018	64,290	125,469
2016	108	6,093	64,889	1,270	72,360	67,619	1,737	69,356	141,716
2017	11	5,973	66,042	1,087	73,113	90,411	2,243	92,654	165,767
2018	429	5,987	66,981	1,136	74,533	93,125	2,682	95,807	170,340

Table 1: RMMA Operations Data. Source: Federal Aviation Administration Ops-Net.

Itinerant operations by each operator type are shown in Figure 7. The figure shows the overwhelming majority of itinerant operations at RMMA are conducted by general aviation.

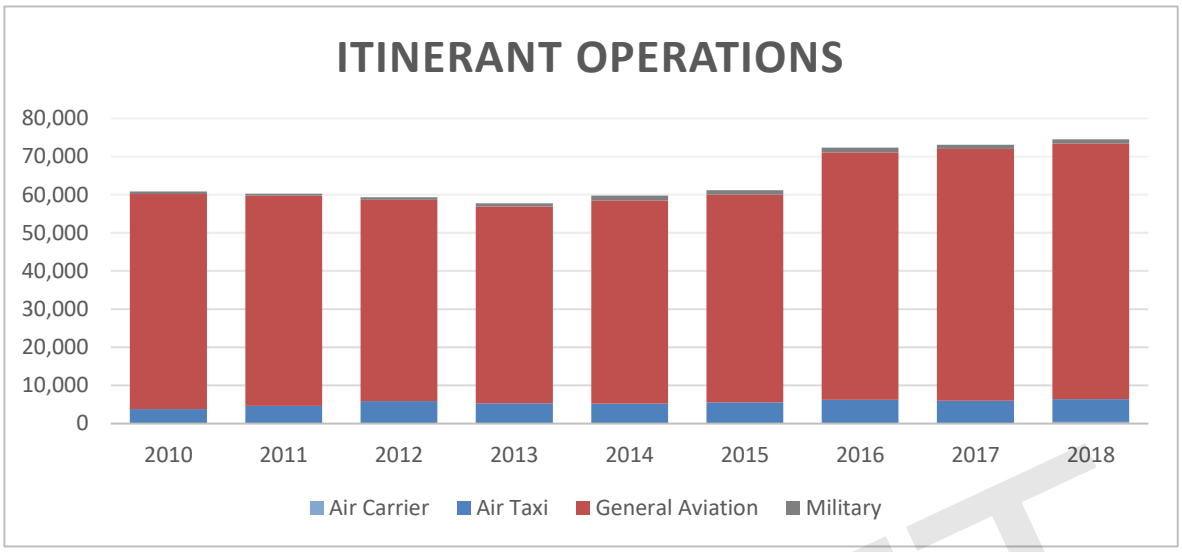


Figure 6. Itinerant operations by aircraft category. (Source, FAA Ops-Net data)

Local operations are also growing as shown in Figure 7 below. General aviation operations also make up the majority of local operations, while the number of military operations seems to be growing it remains a very small percentage compared to civil operations.

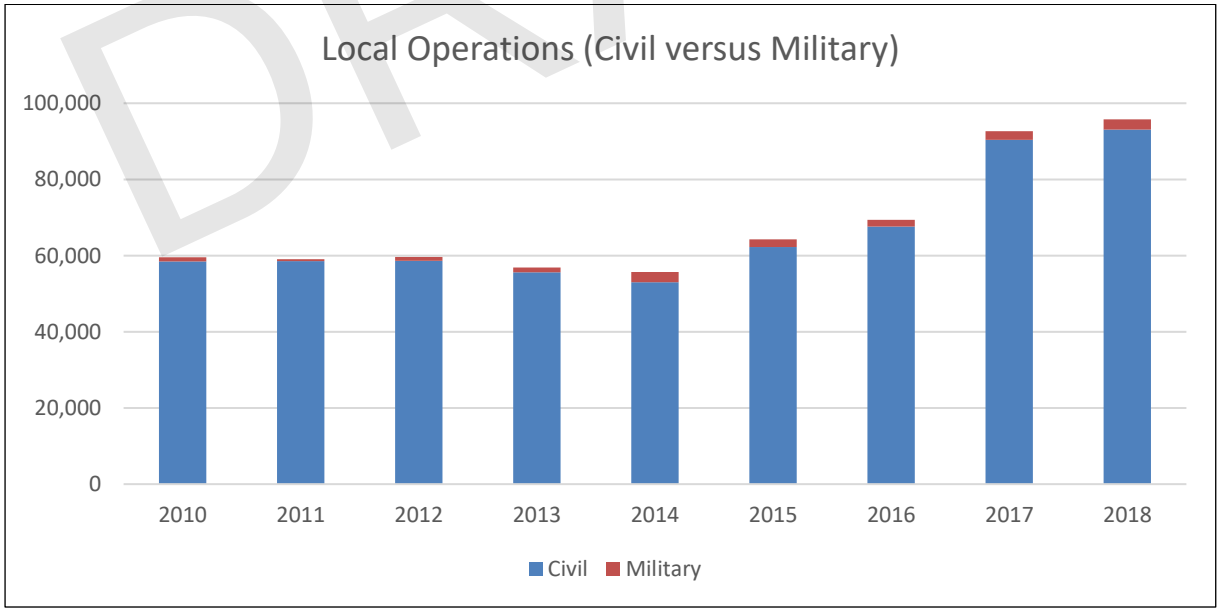


Figure 7. Local operations, civil versus military. (Source, FAA Ops-Net data).

Military operations at RMMA have also been trending upward, though not as consistently or as quickly as general aviation operations. Most of the military operations are local.

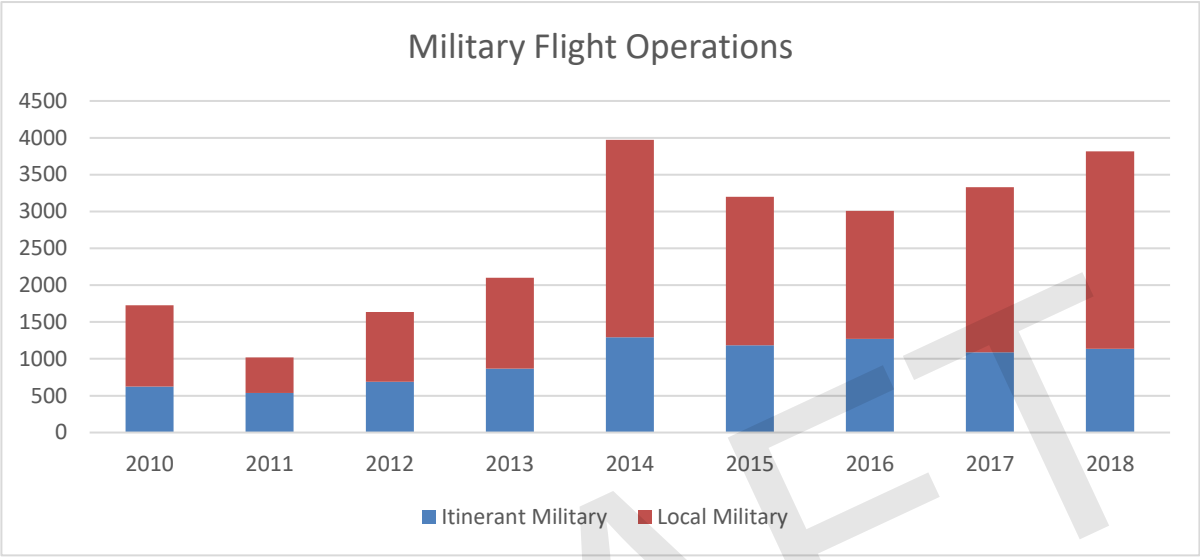


Figure 8. Military flight operations. (Source, FAA Ops-Net data)

Based Aircraft

Over 70% of aircraft based at RMMA are small, single-engine, general aviation aircraft. These are common with flight training and consistent with the high level of flight training activity at the airport. Multi engine aircraft and jet aircraft make up 25% of the fixed-wing aircraft, and helicopters make up the remaining 5%.

Aircraft Type	Based Aircraft	Percentage
Single Engine	300	70%
Multi Engine	55	13%
Jet	50	12%
Helicopter	20	5%
Total	**425**	100%

Table 2. RMMA based aircraft. Source: FAA, RMMA Airport 5010 (2017 data)

For illustrative purposes, samples of each fixed-wing aircraft category are depicted in the figure below.

Sample Aircraft Types

Single Engine
 
Multi-Engine
 
Jet
 

Figure 9. Sample aircraft types by category. Source: Cessna Aircraft.

Flight Patterns and Procedures

Runway Selection

Runway 30R-12L is designated the "primary" runway, meaning when conditions allow, this is the main runway to be used. At 9,000 feet in length, Runway 30R-12L is the longest runway at RMMA and the runway used most often by aircraft landing or departing the airport. Training and "local" operations are typically conducted on the shorter parallel runway, 30L-12R.

Runway selection is based primarily on wind conditions. Aircraft typically take-off and land into the wind. Small aircraft and those conducting touch-and-go activities will most often use the shorter parallel runway (30L-12R). This enables safe and efficient use of the airport and airspace with training and practice operations on the parallel and arriving and departing aircraft using the

primary. While these are typical conditions, training activity and airport pattern work (i.e. touch-and-goes) may be conducted on the primary runway. Similarly, based on conditions, air traffic control may have arrivals and departures use the parallel runway. In most cases, larger and faster aircraft such as turboprop and jet airplanes will use the primary runway due to its extra length.

As noted, air traffic controllers determine the runway to be used based primarily on wind speed and direction. When wind speeds are 5 knots or above and wind direction is between 210 degrees and 30 degrees, Runways 30L and 30R will typically be used. When wind speed is 5 knots or above and wind direction is between 30 degrees and 210 degrees, Runway 12L and 12R will typically be used. It should be noted these are generalities and other factors can play a role in runway selection. For example, if the winds are variable (changing), air traffic control may not change the runways in use. Runway use is usually based on sustained conditions.

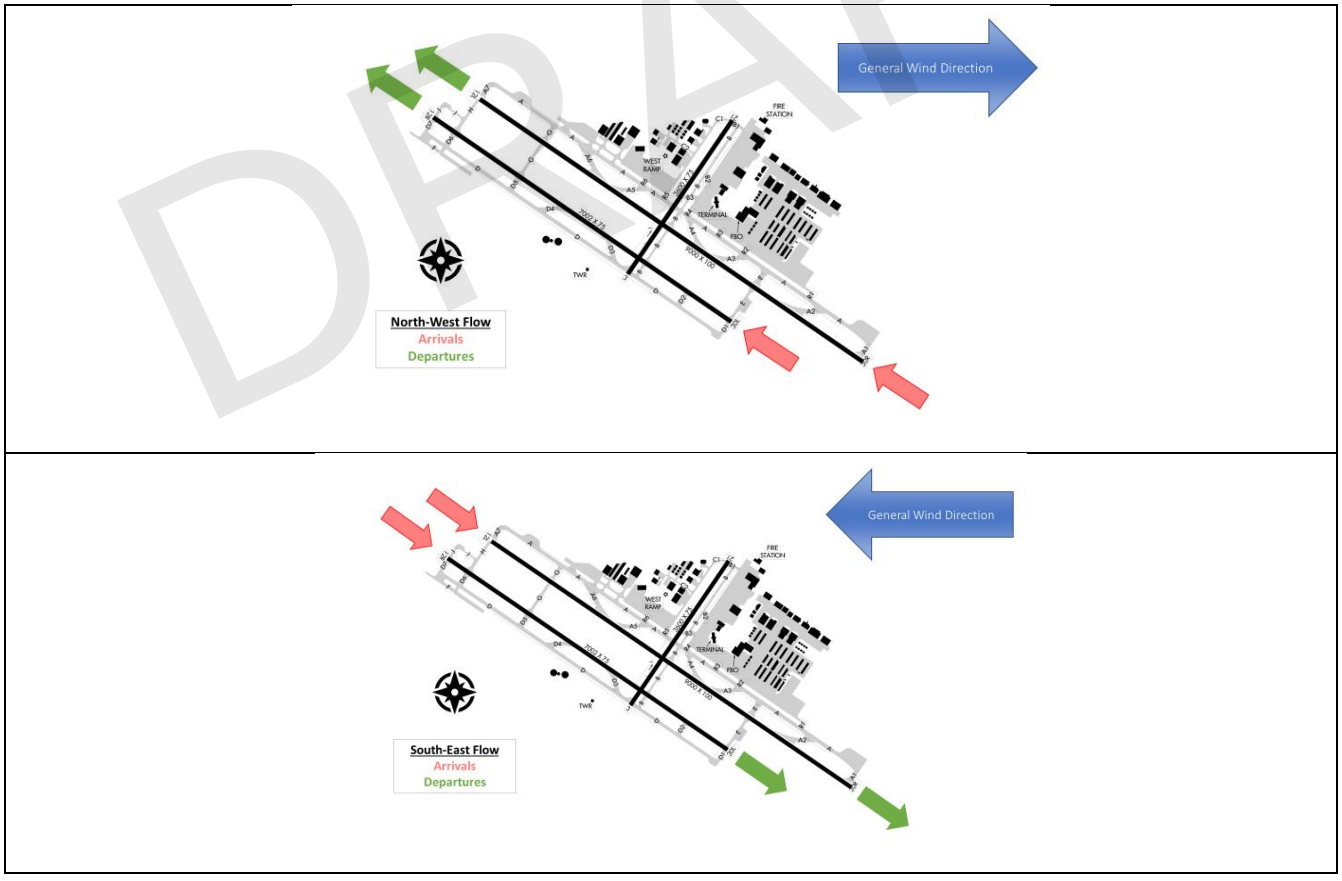


Figure 10. Operational flows are based on wind direction.

The crosswind runway, 3-21, is often used by helicopters. This allows access into and out from the airport with minimal impacts to the fixed-wing flight patterns. Fixed-wing use of the crosswind runway is less common and dictated primarily by higher wind conditions.

Local Operations

Local operations occur when the aircraft remains within the airport traffic pattern. Most commonly, local operations involve touch-and-goes and practice approaches intended to build or maintain pilot proficiency in landing and taking off. This training (and practice) is required by Federal Aviation Regulations for both new pilots as well as those getting advanced training and for maintaining their pilot certifications. Landing and taking-off must also be conducted during nighttime conditions (between sunset and sunrise) as required by Federal Aviation Regulations.

The flight patterns associated with local operations can vary based on a wide number of factors and conditions. Factors include the aircraft type and weight, pilot technique, weather and wind conditions, and the number and mix of aircraft types in the pattern. More aircraft in the pattern will generally result in a larger pattern to ensure appropriate spacing among aircraft.

While not to scale, Figure 11 (below) is intended to illustrate the general concept of a local traffic pattern. Airport traffic patterns are typically rectangular running parallel to the runway being used. When conducting touch-and-goes, as an example, the aircraft takes off, turns to fly parallel to the runway, then turns to line up for landing.

The examples below are not to scale and for illustrative purposes only. As noted, the actual pattern(s) flown will depend on a number of factors and will vary. The figures below illustrate local traffic patterns for Runways 30L and 12R

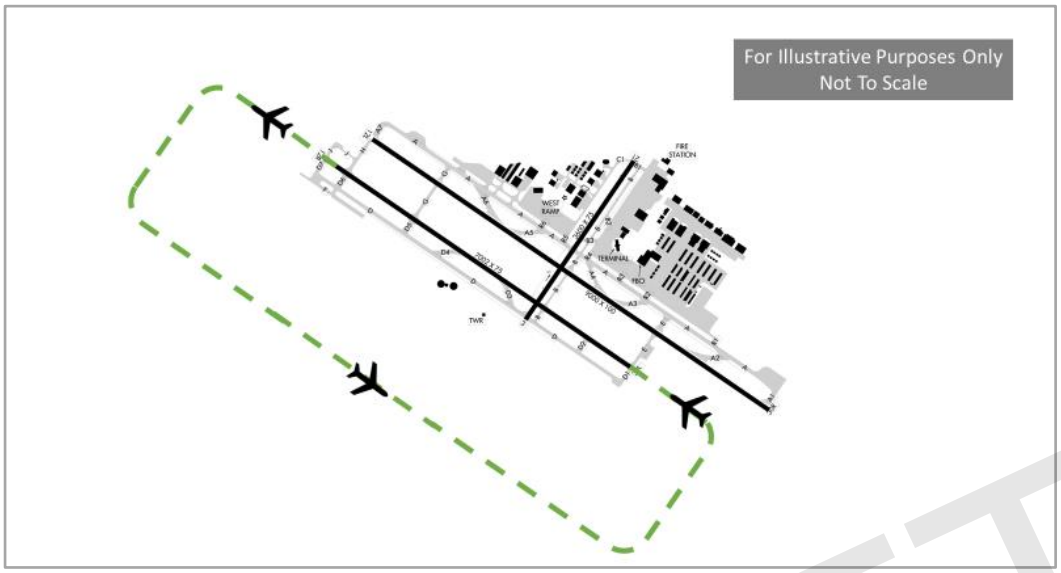


Figure 11. Generalized example of "closed-traffic pattern. Actual conditions will vary.

Figure 12. Generalized examples of "closed-traffic patterns. Actual conditions will vary.

Itinerant Operations

As is the case with local operations, the flight patterns associated with itinerant operations have commonalities and differences. When taking off, all fixed-wing aircraft depart maintaining runway heading during the initial climb. The altitude and/or distance from the runway at which the aircraft turns depends on many factors. Typically, aircraft will climb to between 400-500' above ground level (AGL) before turning. This can vary based on a number of variables and

conditions. Aircraft type and weight dictate aircraft performance which impacts how quickly aircraft climb. Weather also plays a role. Higher outside temperatures reduce performance, as can wind speed and direction. Pilot technique and air traffic instructions can also play a role. These variables result in variations in flight patterns for aircraft arrivals and departures. However, the initial take-off and climb and the final approach portion of landings are generally consistent.

Standard Instrument Departures (SIDs)

Due to terrain west of the airport, departures using Runways 12L and 12R (southeast) are typically assigned a heading by air traffic control between 350° clockwise to 150°. Departures using 30L and 30R are typically assigned a heading between 350° clockwise to 113°. (See Figure 13 below).

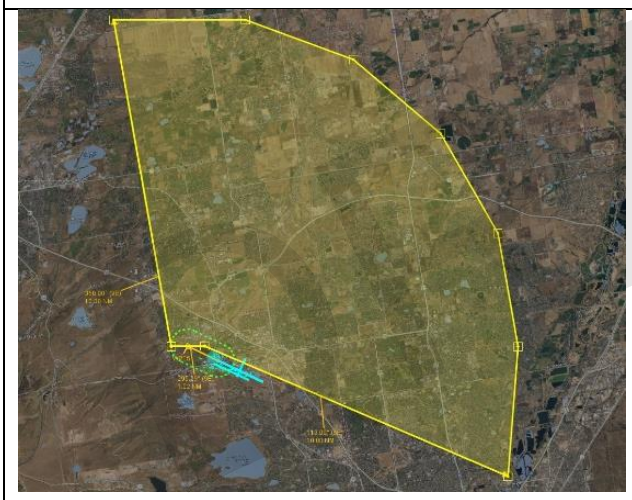
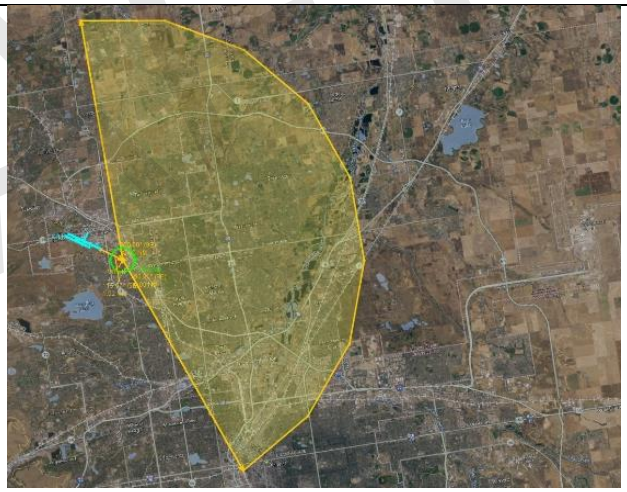
Runway 30L/R Departure Headings	**Runway 12L/R Departure Headings**
	

Figure 13. Departure headings will typically be within the range of yellow depicted above based upon the runway used.

Figure 14 (below) is an example of a flight procedure used by pilots. The COORZ departure is used by departures heading west. However, the graphic circled above indicates departures off of Runways 30L and 30R (northwest) make an immediate turn to the east. Departures off of 12L and 12R (southeast) following runway heading until assigned a heading by air traffic control. All of the departure procedures out of RMMA utilize the same general pattern initially. Factors that can influence the heading assigned by air traffic include intended destination, wind and weather

conditions, and other air traffic in the area. With terrain to the west and Denver International Airport's airspace to the east, managing operations in and out of RMMA can be a complex task.

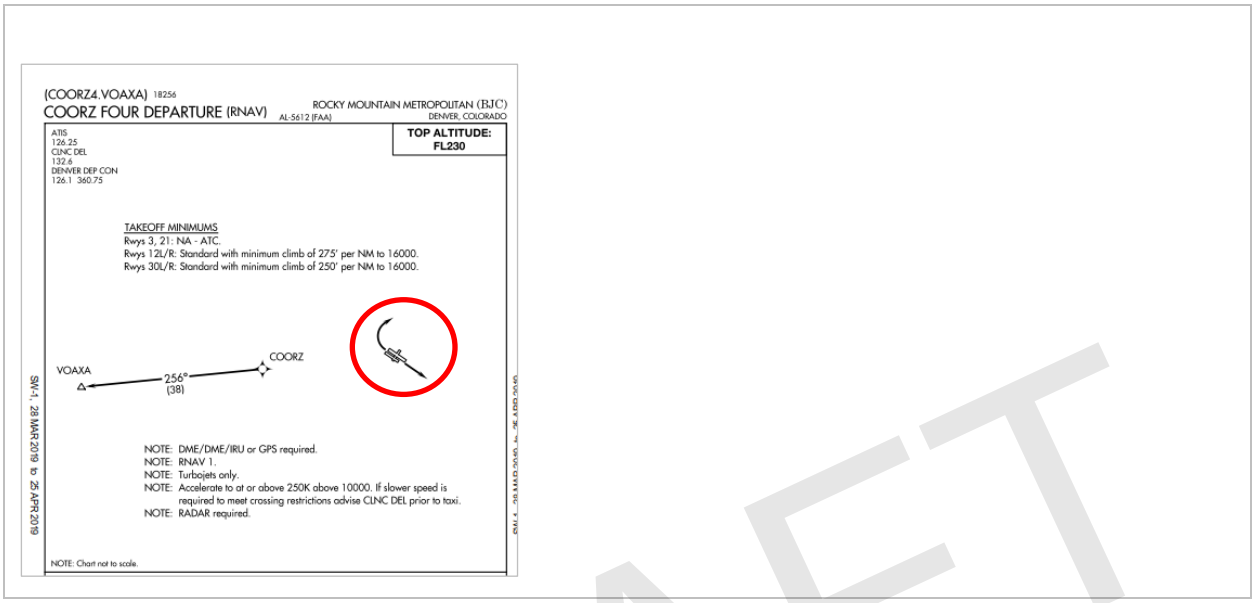


Figure 14. Excerpt - sample published flight procedure. (Source, FAA)

The graphics below are intended to illustrate how the flight procedures apply to RMMA.

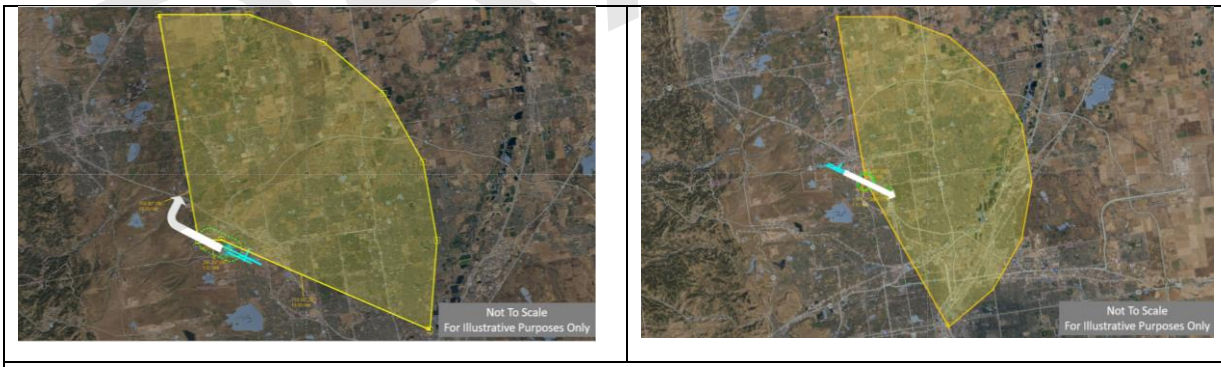


Figure 15. Departure heading range with published procedure overlayed.

Standard Terminal Arrival Routes (STARs)

Arrival procedures transition aircraft from cruise altitude down to the approach into the airport. There are a number of arrival procedures serving Denver International and multiple general aviation airports in the area. Typically, these terminate around 9,000 feet and some distance from the airport, so aircraft on these procedures have minimal noise impact on the communities

surrounding RMMA. However, aircraft flying those procedures can impact air traffic control instructions and aircraft navigation.

Instrument Approach Procedures

Airport approach procedures take aircraft from the arrival phase of flight through to landing. For RMMA this can include altitudes from 9,000 to the runway. Most of the instrument approach procedures into RMMA include a final approach path of approximately six miles. This gives aircraft ample time to prepare and "stabilize" the aircraft in preparation to make a safe landing. Instrument approach procedures are typically used by itinerant aircraft flying to RMMA from another airport. Aircraft performing touch-and-goes or other "local operations" may use a shorter final approach. As is the case with other phases of flight, the length of the final approach, flight path, altitude, and speed, may vary based on a multitude of factors including aircraft type, windspeed and direction, pilot technique, type of approach, and other air traffic.

Overflights of Superior and Louisville

Of particular interest are the conditions leading to overflights of Superior and Louisville. An analysis was done to provide general information about the operations and conditions most likely to result in overflights of Superior and Louisville. The information provided is not intended to be all-inclusive or to describe every scenario in which an aircraft will overfly Superior or Louisville. Instead, it is intended to provide general information about the predominant conditions under which overflights may be expected.

Superior

Due to the proximity to the airport and the location, specifically of the Rock Creek Community which is located along the extended centerline of Runway 30L and 30R (and 12R and 12L), overflights of this portion of the community should be expected.

Closed traffic operations (i.e. touch-and-goes) will often result in overflights of the Rock Creek area of Superior. Based on the standard airport traffic pattern, aircraft in the closed-traffic pattern will normally fly in proximity to Rock Creek when Runway 30L and 30R or 12L and 12R are in

use. Conditions such as the number of aircraft in the pattern may increase the likelihood of overflying Rock Creek because the pattern will be larger when accommodating more aircraft. When smaller numbers of aircraft are in the pattern (i.e. 1-3) it is possible for Rock Creek to be avoided in certain conditions. (i.e. cold weather, light take-off weight, etc.)

Aircraft departing under Instrument Flight Rules (IFR) using Runway 30L and 30R normally overfly Superior. Typically, aircraft maintain runway heading until reaching 400-500 feet before turning north and departing the area.

IFR aircraft landing on Runway 12L and 12R will normally overfly Superior. Aircraft are typically either flying a visual approach or a GPS approach which curves in from the northwest. This results in overflights of Superior to a stabilized final within 2 miles of the approach end of the runway. Approaches over Superior should be expected when 12L and 12R is in use.

Louisville

Louisville is approximately 3 miles north of the airport and not aligned with the runways. Aircraft on Visual Approaches may overfly Louisville. IFR aircraft departing RMMA on runway 30L or 30R are more likely to overfly Louisville which may result in noise impacts.

Client input has suggested the majority of aircraft noise impacts are attributed to jet aircraft. An analysis of flight procedures and flight operation suggests jet departures are a common source of overflights for Louisville.

Because Louisville is not below the extended centerline for the runways at RMMA, typical approaches (straight-in visual approaches and instrument approaches) do not overfly Louisville. There is one RNAV (GPS) approach procedure to the airport (Runway 12L). Use of that procedure will bring aircraft in over Louisville, but this procedure is less common than Visual Approaches in good weather.

Land-Use / Zoning

The airport is located in the City of Broomfield and surrounded by multiple cities, towns, and counties, each with their own land-use and zoning authority. The Airport Master Plan update completed in 2008 cites the efforts by the Airport and Jefferson County to encourage land-use planning within the region that would be compatible with the airport and airport operations. The document also notes that as far back as 2008, zoning and land-use development surrounding the airport were a concern. This is because much of the proposed, or expected development, included residential development, even in areas with exposure to aircraft noise and overflight activity, both of which was expected to increase.

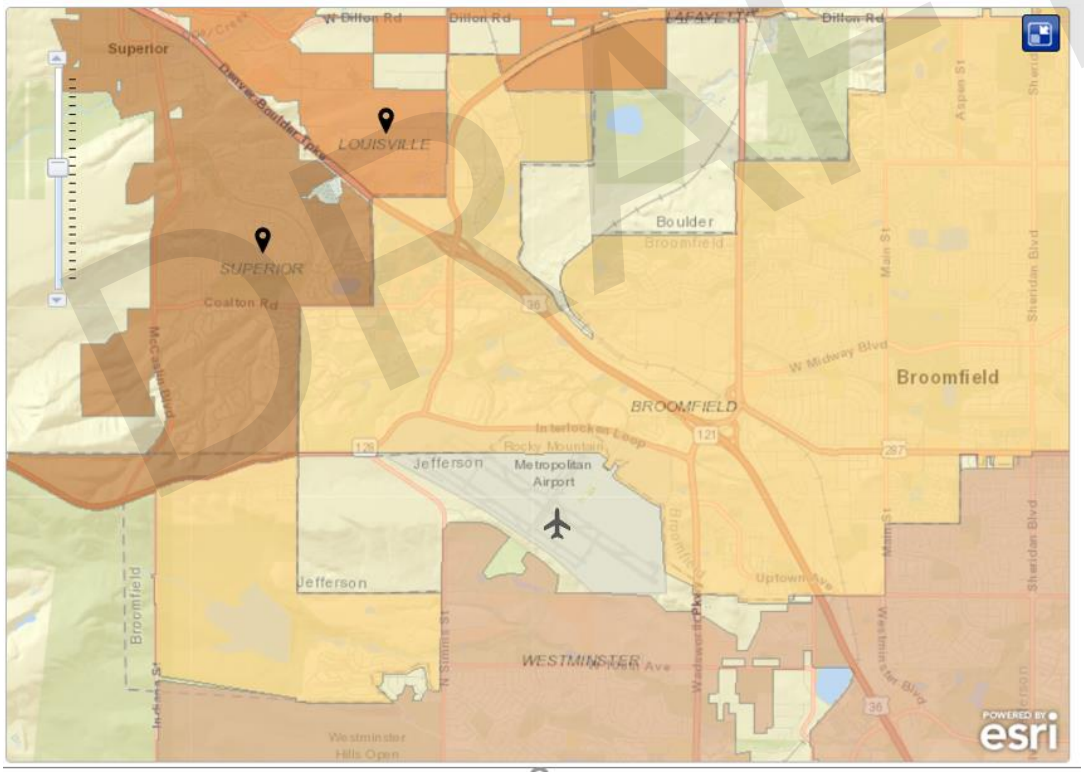


Figure 16. Regional Map. (Source: Colorado Department of Transportation)

In 1984, Jefferson County published a Land-Use plan which included discouraging residential development within the "Airport Influence Area." The following is an excerpt from the land-use plan:

> *"Ensure that land use in the Airport Influence Area is compatible with the general aviation function of the Jefferson County Airport and does not expose people or property to harm or damage from aircraft accidents or high noise levels".*

Jefferson County appears to have recognized the potential for residential encroachment and the impacts associated with non-compatible development close to the airport and flight corridors. This was reinforced in the 2011 master plan update, which included publication of the Airport Influence Area and Critical Zones.

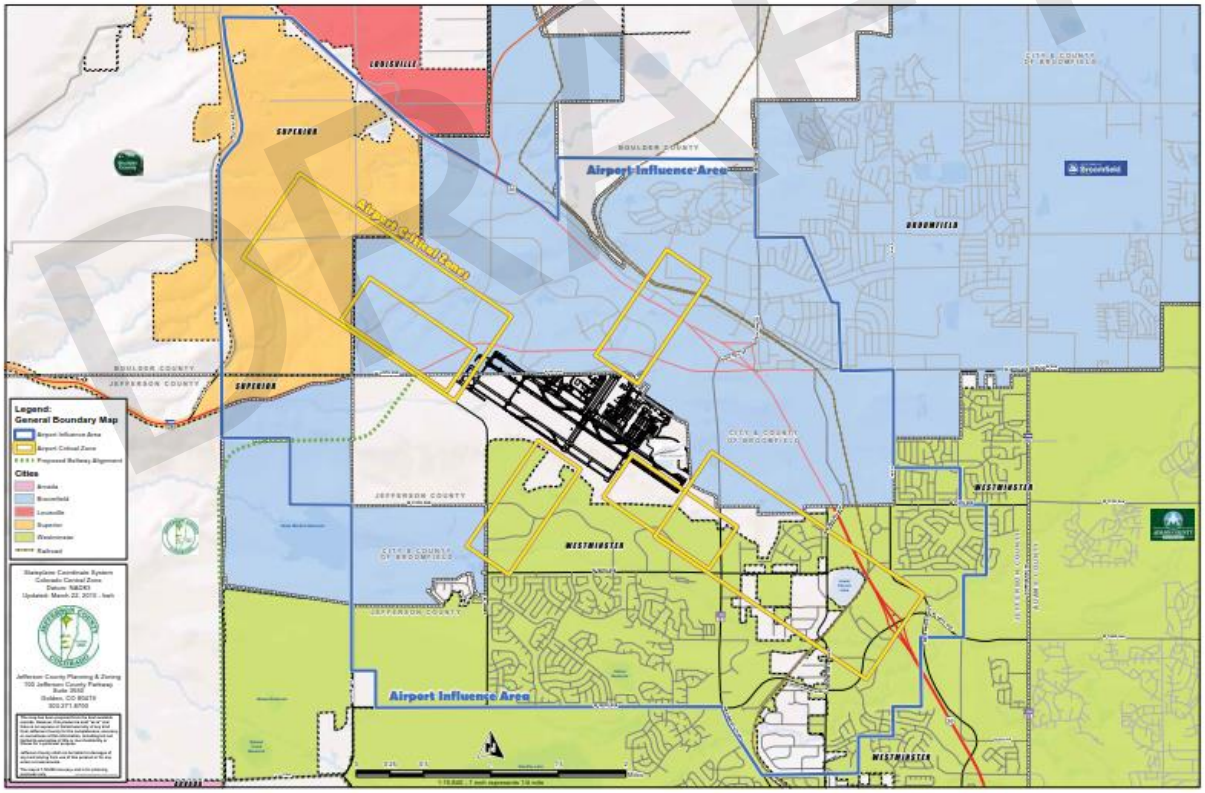


Figure 17. Land-Use / zoning in proximity to RMMA. (Source: RMMA 2011 Master Plan Update)

The RMMA Airport Influence Area (AIA) encompasses the land around the airport where aircraft overflights, noise, and other potential impacts associated with aircraft operations are likely. Officially, Jefferson County defines the Airport Influence Area as *"a planning boundary around an airport which includes property within the environs of the Airport, where particular land uses either are influenced by or will influence the operation of the airport, in either a positive or negative manner. The boundary considers factors such as noise contours, traffic pattern areas, approach zones, and runway protections zones."*

Airport Influence Areas are common in land-use planning around the United States. The terminology can vary but the definition and application are generally the same. The intent is usually to encourage and in some cases mandate, land-use planning and development that is compatible with high volumes of aircraft overflight activity, noise, and other potential impacts associated with aircraft operations. Often, noise-sensitive development (i.e. residential development) is discouraged or prohibited in these areas. When residential development is permitted, it often requires formal aviation noise disclosures or avigation easements as a requirement for permit approval and/or home purchase. In such cases, the intent is to ensure prospective home-buyers are aware of the potential for aircraft overflight, noise, and associated impacts. This is the case for development within the RMMA AIA.

Jefferson County requires home builders within the AIA to grant an avigation easement prior to development approval. The easements become attached to the deed and are included in title documentation and is intended to ensure homebuyers are aware of the exposure to aircraft overflights and noise.

Portions of the Town of Superior are located within the RMMA Airport Influence Area, including all of the Rock Creek community. Large portions of Broomfield and Westminster are also within this area. Overflight activity (and subsequent noise exposure) is especially prominent along the extended centerlines for airport runways. These can extend as far as ten miles from the runway end and are the areas where final approach and landing as well as initial take-off and climb out occur. Operations are typically concentrated in these areas.

Rock Creek Development, Superior

A large portion of the Town of Superior is located within the RMMA Airport Influence Area; however, the Rock Creek community is the portion of Superior that experiences the most overflight activity. As noted, this is due to the close proximity to the airport and in particular, it's location along the extended centerline of the runway. The Rock Creek Community is located below the approach path to Runways 12L and 12R and along the departure path for Runways 30L and 30R. Rock Creek is also overflown by aircraft in the traffic pattern, which is common based on the volume of activity at RMMA.

The Rock Creek community is also situated within the Airport Critical Zones, which is the area along the ends of the runway where aircraft overflights and noise impacts are likely to be highest. (See Figure 17 above).

Both the Airport and Jefferson County appear to have made an effort to collaborate with local land-use jurisdictions to encourage compatible land-uses around the airport, especially in locations expected to experience the greatest impacts from aircraft overflights and noise.

Designation of the RMMA Airport Influence Area and Airport Critical Zones are aimed at informing land-use authorities, developers, and prospective home-buyers of the potential impacts associated with the airport. According to Airport records including the Airport Master Plan updates, the Airport and Jefferson County work collaboratively with neighboring towns and counties regarding land-use and zoning.

Avigation easements are required for residential development in many of the areas surrounding the Airport. While there are legal implications associated with avigation easements, the greatest value is often seen as the opportunity to disclose, and ensure an understanding of, the potential impacts by developers and prospective home-buyers when considering building or purchasing a home in locations known to be susceptible to aircraft noise and other impacts. (Examples of notifications and media coverage related to the proposed development of the Rock Creek community is included in the appendices.)

An assessment of both flight procedures, community input, and noise complaint reports, shows that Rock Creek appears to be one of the communities most impacted by RMMA operations. Recognizing this, it is important to consider the history of the development and efforts made by Jefferson County and the Airport to inform land-use authorities and developers of the potential impacts residents in this area will experience.

Community Feedback

Total Complaints

Both airport operations and noise complaints have been steadily increasing over the last 8 years (2011-2018). Figure 18 (below) provides a snapshot of total complains versus total operations on an annual basis.

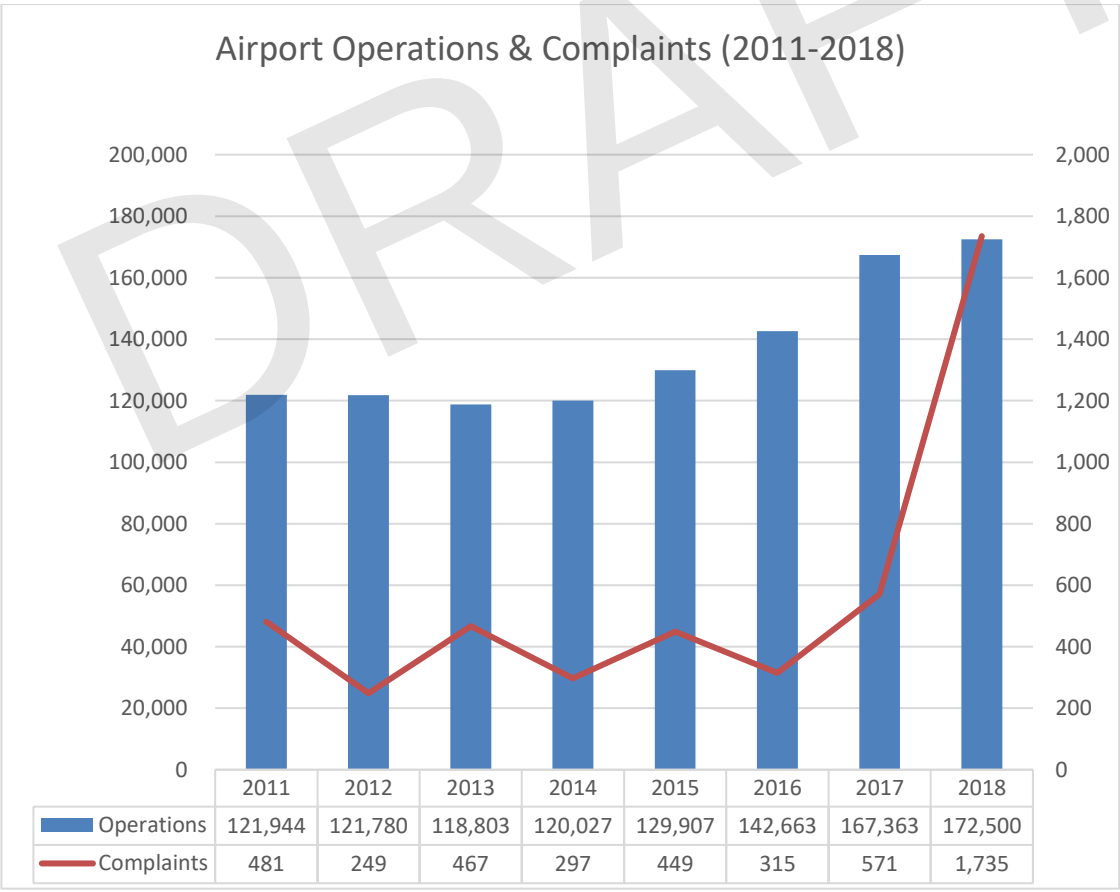
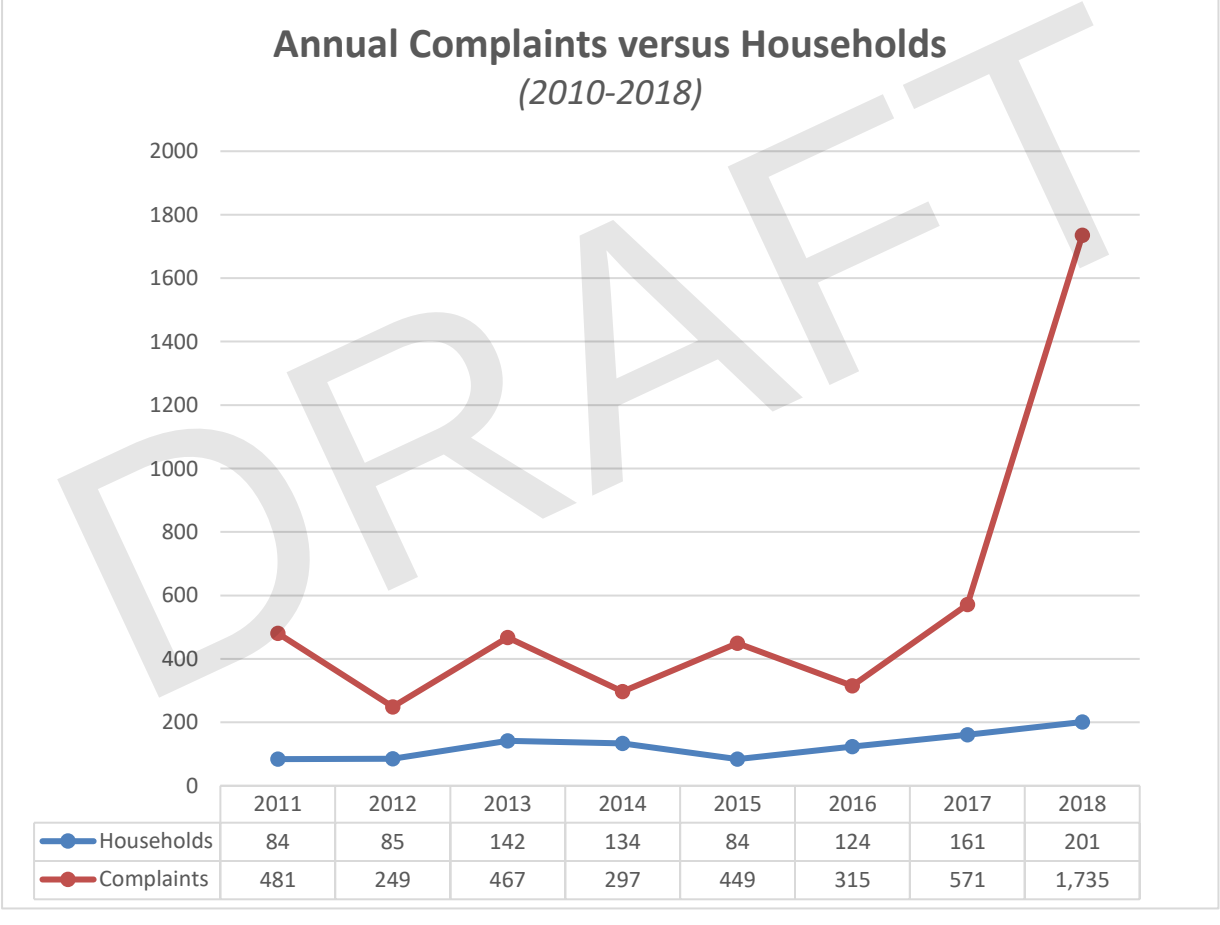


Figure 18. Annual operations and annual complaints. (Source, RMMA).

The rise in complaints from 2017 to 2018 raised questions regarding the cause of the growth in complaints. A deeper look into the complaint data revealed that in 2017, a single household was responsible for nearly 50% of the annual noise complaints. Of the 1,735 submissions in 2018, 865 came from a single household in Superior

Figure 19 (below) shows the number of complaint submissions and the number of households submitting those complaints.



	2011	2012	2013	2014	2015	2016	2017	2018
Households	84	85	142	134	84	124	161	201
Complaints	481	249	467	297	449	315	571	1,735

Figure 19. Annual complaints and number of households submitting complaints. (Source, RMMA).

Complaints by Location

The level and volume of complaints typically correlates, to some degree, to the level of noise exposure and/or overflight activity in a specific area. Complaints are usually higher in areas closest

to the airport, where aircraft are typically low(er) and the frequency of overflights is higher. These factors combined typically result in higher noise exposure and more complaints.

On the other hand, residents choosing to live close to an airport are often less sensitive to aircraft noise and have an expectation of flight activity. Additionally, sensitivity to aircraft noise varies greatly among individuals and some residents within a community may be highly annoyed while others in the same area experience less, and in some cases, no annoyance. Because of this, noise complaints should be viewed as a source of information but not a direct indication of exposure or impact.

Figure 20 (below) is a breakdown of noise complaints by location. The graphic shows that over the study period, noise complaint volumes were fairly flat, year over year. Average monthly submissions ranged from three to 316. Superior had the highest average with 316. That included 1,734 complaints in 2018, up from 571 submissions the prior year, with 50% coming from a single household. Louisville accounted for the second highest volume of complaints with an average of 103 per month over the 8-year study period.

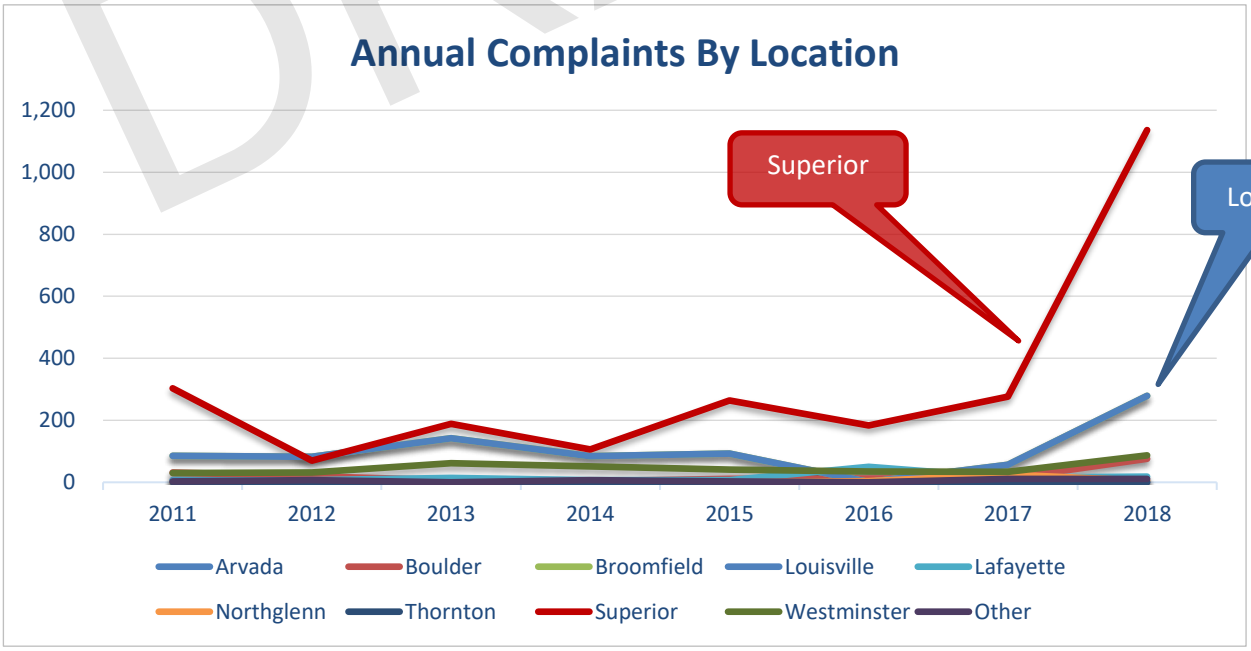


Figure 20. Complaints by location. (Source: RMMA)

Complaints by Aircraft Category

The airport provides complaint data on their website going back to 2011. The data includes complaint by aircraft type, broken down by quarter. A review of the reports (2011-2018) revealed that in some quarters, jet operations caused the majority of complaints, but most of the time, propeller aircraft caused the majority of complaints.

A more detailed review of complaint data for 2016-2018 revealed the majority of complaints each year were associated with propeller aircraft operations. Figure 21 (below) shows the complaints by aircraft type. The values are based on percentage of total complaints. It should be noted, 2018 data includes the 865 complaints submitted by a single household, all of which were attributed to propeller aircraft.

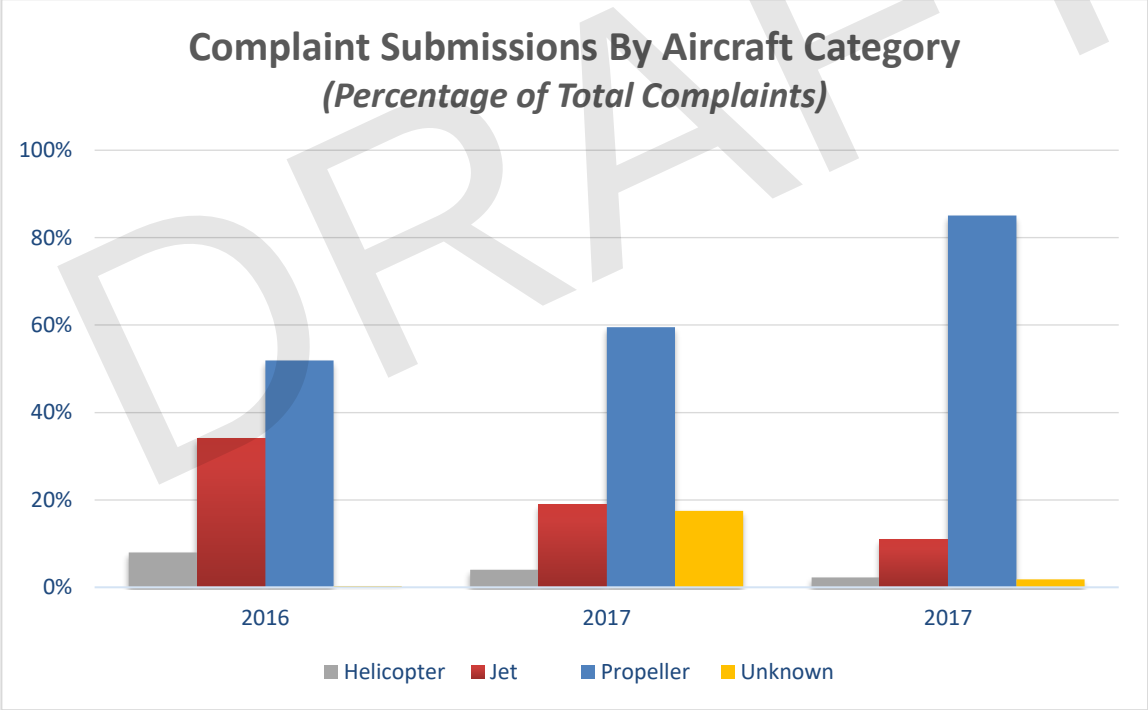


Figure 21. Complaint submissions by aircraft category. (Source: RMMA).

Airport Nosie Program (Existing)

Overview

The Airport's existing noise program (branded, "Fly Quiet") is intended to, "balance the needs of our community" and to "minimize noise from aircraft operations and reduce any negative effects on the surrounding areas." (Source: Jefferson County website, https://www.jeffco.us/1694/Fly-Quiet-Program).

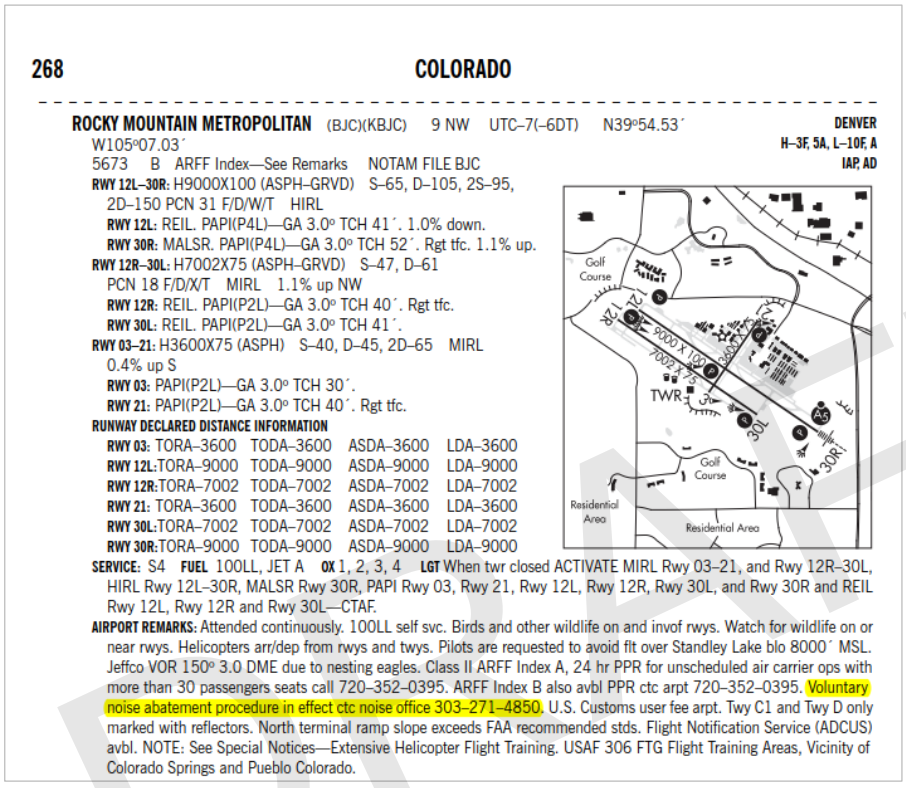
Airports do not have the authority to regulate flight operations, however they may recommend procedures and practices intended to reduce community noise impacts. The RMMA Fly Quiet program includes the following recommendations to pilots:

- Avoid flying over noise-sensitive areas when practical.
- Please fly high and tight patterns, not low approaches.
- Follow the PAPI.
- Maintain pattern altitude of 6,500 feet for singles and 7,000 feet for twins, jets, and helicopters.
- No intersection takeoffs.
- Runway 30R is designated the "calm wind runway" under the recommended noise abatement procedures.
- Engine maintenance run-ups are not allowed between 10 p.m. and 6 a.m., except in an emergency. (Note: engine run-ups may be regulated by the airport).

While not mandatory (except for the restrictions on engine run-ups), these recommendations, when followed, can be effective in reducing noise impacts. In support of encouraging awareness and participation in the Fly Quiet program, airport staff visit flight schools and other tenants advising them of the noise program elements and the importance of minimizing noise impacts to the extent possible.

Airport noise program information is also disseminated via the Airport's website which includes program elements as well as a map noting "noise sensitive areas" which should be avoided when

possible. Reference to the airport's noise abatement program and a contact phone number for noise program information is also referenced in the Airport Facility Directory which provides airport information to pilots.



268 COLORADO

ROCKY MOUNTAIN METROPOLITAN (BJC)(KBJC) 9 NW UTC–7(–6DT) N39°54.53´ W105°07.03´ DENVER H–3F, 5A, L–10F, A IAP, AD

5673 B ARFF Index—See Remarks NOTAM FILE BJC

RWY 12L–30R: H9000X100 (ASPH–GRVD) S–65, D–105, 2S–95, 2D–150 PCN 31 F/D/W/T HIRL

RWY 12L: REIL. PAPI(P4L)—GA 3.0° TCH 41´. 1.0% down.

RWY 30R: MALSR. PAPI(P4L)—GA 3.0° TCH 52´. Rgt tfc. 1.1% up.

RWY 12R–30L: H7002X75 (ASPH–GRVD) S–47, D–61 PCN 18 F/D/X/T MIRL 1.1% up NW

RWY 12R: REIL. PAPI(P2L)—GA 3.0° TCH 40´. Rgt tfc.

RWY 30L: REIL. PAPI(P2L)—GA 3.0° TCH 41´.

RWY 03–21: H3600X75 (ASPH) S–40, D–45, 2D–65 MIRL 0.4% up S

RWY 03: PAPI(P2L)—GA 3.0° TCH 30´.

RWY 21: PAPI(P2L)—GA 3.0° TCH 40´. Rgt tfc.

RUNWAY DECLARED DISTANCE INFORMATION

RWY 03:	TORA–3600	TODA–3600	ASDA–3600	LDA–3600
RWY 12L:	TORA–9000	TODA–9000	ASDA–9000	LDA–9000
RWY 12R:	TORA–7002	TODA–7002	ASDA–7002	LDA–7002
RWY 21:	TORA–3600	TODA–3600	ASDA–3600	LDA–3600
RWY 30L:	TORA–7002	TODA–7002	ASDA–7002	LDA–7002
RWY 30R:	TORA–9000	TODA–9000	ASDA–9000	LDA–9000

Golf Course
TWR
Golf Course
Residential Area
Residential Area

SERVICE: S4 **FUEL** 100LL, JET A **OX** 1, 2, 3, 4 **LGT** When twr closed ACTIVATE MIRL Rwy 03–21, and Rwy 12R–30L, HIRL Rwy 12L–30R, MALSR Rwy 30R, PAPI Rwy 03, Rwy 21, Rwy 12L, Rwy 12R, Rwy 30L, and Rwy 30R and REIL Rwy 12L, Rwy 12R and Rwy 30L—CTAF.

AIRPORT REMARKS: Attended continuously. 100LL self svc. Birds and other wildlife on and invof rwys. Watch for wildlife on or near rwys. Helicopters arr/dep from rwys and twys. Pilots are requested to avoid flt over Standley Lake blo 8000´ MSL. Jeffco VOR 150° 3.0 DME due to nesting eagles. Class II ARFF Index A, 24 hr PPR for unscheduled air carrier ops with more than 30 passengers seats call 720–352–0395. ARFF Index B also avbl PPR ctc arpt 720–352–0395. Voluntary noise abatement procedure in effect ctc noise office 303–271–4850. U.S. Customs user fee arpt. Twy C1 and Twy D only marked with reflectors. North terminal ramp slope exceeds FAA recommended stds. Flight Notification Service (ADCUS) avbl. NOTE: See Special Notices—Extensive Helicopter Flight Training. USAF 306 FTG Flight Training Areas, Vicinity of Colorado Springs and Pueblo Colorado.

Figure 22. Excerpt from Airport Facility Directory

Regional Economic and Social Impacts

The core focus of this analysis was on the negative impacts of RMMA and the associated aircraft operations with the ultimate goal of identifying strategies to reduce those impacts on the community. However, it is important to recognize the positive impacts, both economic and social, for the state, region, and local area.

Some of the greatest positive local and regional impacts of an airport are economic in nature. Airports can act as a regional economic engine promoting both economic and job growth.

According to a study sponsored by the Colorado Department of Transportation, RMMA is directly responsible for more than 800 jobs. Those are jobs attributed to the airport itself (airport management and staff) and airport tenants (flight schools, Federal Aviation Administration, restaurants, etc.). That's over 800 individual jobs contributing millions of payroll dollars to local residents and the local economy.

Access to convenient air service is often a consideration for corporate relocation. Corporate aviation facilities for Ball Corporation, Level 3 Communications, Leprino Foods and Pilatus are based at RMMA.

In addition to economic impacts, airports provide facilities that support public safety agencies including law enforcement and the military. RMMA is home to a U.S. Forest Service Tanker Base which supports the Forest Service's role fighting wildfires.

The economic benefits associated with tourism is another benefit of a local airport. According to the Colorado Department of Transportation, 141,000 visitors arrive in Colorado via RMMA. These visitors spend money in the local area on food, lodging, transportation, and in retail stores strengthening the local economy. In addition to money spent on local businesses, RMMA operations are linked to the generation of close to $13 million in state and local tax revenues annually.

Disclaimer

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Appendices

Appendix 1

Letter from Airport to Town of Superior regarding Final Development Plan for Rock Creek dated (December 11, 1986)

Appendix 2

Letter from Airport to Town of Superior regarding proposed residential development in proximity to airport and flight corridors. (April 25, 1989)

Appendix 3

Letter from Airport to Town of Superior regarding proposed residential development in proximity to airport and flight corridors. (January 21, 1997)

Appendix 4

Newspaper article: "*Superior expansion near airport is risky, Jeffco officials warn.*"

Appendix 1

DENVER'S
CORPORATE
RELIEVER

December 11, 1986

Ms. Laura Belsten
Manager
Town of Superior
206 West Coal Creek Drive
Louisville, Colorado 80027

Dear Ms. Belsten:

We have received a copy of the Final Development Plan for the proposed Rock Creek Ranch Planned Unit Development. We would like to thank the Town of Superior for this opportunity to express our comments and concerns regarding this matter.

I have enclosed with this letter a copy of our land use map that has been developed as part of our current Airport Master Plan update. This plan has been proposed by our Airport Consultants and accepted by the Jefferson County Airport Authority. The land use plan has not yet been formally approved by the FAA as of this date since this will not occur until the entire master plan update is complete. Our comments regarding the Rock Creek Development are based on this enclosed plan.

The Rock Creek Development site lies totally within the Airport Influence Area, and therefore, we would ask that the Town of Superior require the developer to grant an Avigation Easement (copy enclosed) to the Airport over all of the property. This easement will better inform future dwelling owners of the noise, vibration levels, nuisance and safety hazards that they can expect during the day and night from the overflight of aircraft. This will also help to protect the Town of Superior as well as the Airport from complaints regarding the same. The Cities of Broomfield and Westminster, and Boulder and Jefferson County routinely require a grant of the easement as a part of their platting process of ground in our Influence Area.

We recommend that no residential development be allowed to take place within the Airport's Critical Zones, as designated on the land use map. Also within these areas, no public buildings such as schools, day care centers, churches, etc. should be permitted.

The map furnished us by the developer detailing the proposed development has four school sites shown on it. We have concerns about these school locations, particularly the school site shown in Area 17. This site is located in line with the extended centerline of our future runway. The school's location should be offset as far as possible from this extended centerline. The remaining schools all appear to be very near the Instrument Runway Critical Zone for our primary

runway. We would recommend that these schools be kept as far from this Zone as possible. Again, it should be noted that any buildings, including these schools, will be impacted by the noise and vibration levels associated with the aircraft flight patterns over this site. Also, any future aircraft accidents are more likely to occur in and near this area than most other locations surrounding the Airport.

We would concur with the recommendations outlined in the Rock Creek PUD proposal regarding restricting heights of objects in accordance with Federal Aviation Regulation Part 77.

We would further recommend, in accordance with our land use plan, that a 200' x 2000' "clear strip" be established off of the end of our future runway clear zone. Within this area no buildings of any kind should be permitted. This area should be reserved for such uses as parking lots, streets, open space, retention ponds, drainage areas, etc. The purpose of this strip is to provide an obstruction-free area to accommodate potential off-airport crashes. This provides a greater margin of safety for both the pilot and passengers as well as to persons on the ground. Actual locations of crashes over the Airport's history shows that this area of concern has a true basis.

In conclusion, we feel that careful consideration with regard to the impacts that Jeffco Airport will have on this property should be given. We feel that this is the appropriate time to evaluate this development to ensure that the rights of future home owners are protected as well as preserving compatible and safe land use controls that can be enjoyed by all parties concerned.

We appreciate this opportunity to review this development plan, and we will be available to answer any questions or concerns you may have regarding these comments.

Sincerely,

JEFFERSON COUNTY AIRPORT AUTHORITY

David C. Gordon

David C. Gordon, A.A.E.
Airport Manager

DCG:sh

cc: Ted Asti, Mayor
Richard Scheidenhelm, Attorney, with Avigation Easement
George Graber, Airport Attorney

Appendix 2

DENVER'S
CORPORATE
RELIEVER

April 25, 1989

Mr. Frederick G. Fox, AICP
Planning Consultant for the Town of Superior
101 Park Place
Superior, CO 80027

Dear Mr. Fox:

On behalf of the Jefferson County Airport Authority, I would like to offer the following comments regarding the Town of Superior Comprehensive Plan Final Draft.

To begin with I would like to mention that the plan appears to be very complete and well written. It is obvious that considerable time and effort has gone into the preparation of this plan. Although the Plan makes reference and given consideration to the Airport in several different sections, we feel that more information both specific and general regarding the airport needs to be included in the plan which I will discuss in this letter.

Because of the Airport's close proximity to both the Superior Corporate and Planning area Boundaries, we feel that it is very important that off airport impacts to these areas be clearly defined to better ensure compatible land use will develop in the future. As such we would ask that the following recommendations be added and made a part of the final Comprehensive Plan:

1. On page six, paragraph two, reference should also be included to indicate the location of Superior in relationship to the Jefferson County Airport.

2. On pages 13 and 14, reference to the Airport is made regarding the various areas and zones off of the end of runways and surrounding the Airport. This information is accurately stated and we appreciate this being included in the Plan. We would ask that this section go even a step further by stressing the importance of ensuring that Superior planners follow and adopt these Airport land use recommendations. It is not clear if in fact these recommendations will actually be utilized.

   This section also makes a statement that all lands within the Airport Influence Zone will have avigation easements. How exactly will this be accomplished? It should also be noted that according to the Rock Creek PUD plan the Master Developer agrees to grant an Avigation Easement over the entire Rock Creek Ranch development within 14 months after recordation of the Final Development Plan. To our knowledge this has not yet been done. Also, it might be appropriate to include a Sample Avigation Easement somewhere in the Plan, possibly as an attachment or appendix. This would better help the reader of the document to better understand the actual purpose of the easement. (A sample Avigation Easement is attached for your reference).

3. Of primary interest to the Airport regarding the Comprehensive Plan involves the actual Land Use Plan. The Overall Schematic Land Use Plan Map 4-1 should have the Airports Influence Area, Critical Zones and Clear Zones shown since these areas are of extreme importance when making any land use decisions.

   Also, the proposed land uses which fall within the above described zones and areas concern us. The majority of this area has proposed land uses which include primarily "mixed use". According to your plan mixed use areas are comprised of residential, commercial or light industrial. Based upon the Airport Land Use Plan, any residential uses within these areas are considered to be an incompatible for reasons of noise and safety, and therefore should not be included as an approved use. There also is a portion of land that lies within the northern corner of the Airport's Critical Zone that is proposed to be solely residential. Again, this is an inappropriate and incompatible in terms of land use for this area.

   We would strongly urge the Town to reconsider their proposed land uses within these areas and propose a type of land use which will better serve both the Airport and the Town of Superior. The most compatible uses would include open space, commercial and industrial. It should be noted that in addition to the obvious noise impacts that will likely be experienced within these areas as a result of aircraft overflight, past Airport records have substantiated the fact that a high percentage of off airport accidents involving aircraft have occurred in this location.

In conclusion, the Jefferson County Airport looks forward to working and growing in a compatible manner with the Town of Superior.

We feel that the recommendations we have offered in this letter are consistent with and accurately represent the goals and objections of the Town's proposed Comprehensive Plan and will result in a more complete and useful document. We sincerely appreciate all of the considerations that the Superior Plan has given to the Airport with regard to land use, however due to the potential growth that Superior can expect over the next twenty years, it is very important that all parties involved with the planning process have as complete and total understanding of the impacts that the Airport may have on the Town in the future.

I have no further comments at this time. I would however, like to thank the Town for allowing us this opportunity to review the proposed Plan. Furthermore, I will be available to discuss this matter with you in more detail at your convenience should you desire.

Sincerely,

JEFFERSON COUNTY AIRPORT AUTHORITY

Robert T. Lohne
Assistant Airport Manager

RTL:tl

Enclosure

Appendix 3

JEFFCO AIRPORT
Denver's Corporate Choice

January 21, 1997

Town of Superior
c/o Mr. Fred Fox
Foxfire Community Planning and Development
13743 E. Mississippi Avenue, No. 102
Aurora, Colorado 80012

RE: Rock Creek PUD Amend. Nos. 14 -18

Dear Mr. Fox:

We have reviewed the proposed PUD amendments that were referred to us earlier. PUD Amendments 15 and 17 are of major concern to this airport. We notice that high-density residential development is proposed to be added within these areas.

Amendments 15 and 17 are located within the airport's "Critical Zone." As you know, the greatest concentration of air traffic occurs within these zones and noise associated with the overflight of aircraft will take place during all hours of the day and night. In addition, the potential for accidents are greatest within these areas. Within this specific area, residential development of any kind is not recommended or supported by us and is, in fact, considered highly incompatible. We therefore strongly urge the Town to reconsider making any changes to the Comprehensive Plan which would allow for the residential use which is being proposed.

The majority of the noise complaints that are received by our office are generated from the Town of Superior. The addition of high-density residential use will only result in even more unhappy citizens who would live in property that is within a defined high noise impact area of the Jeffco Airport. The Jeffco Airport has seen considerable amount of development take place over the last few years and this is likely to continue well into the future.

And finally, we ask that the PUD disclose the airport's presence and impact it will have on the future property owners of Rock Creek. A

11755 Airport Way
Terminal Building
Broomfield, Colorado 80021

Phone: (303) 466-2314
Fax: (303) 438-2017

FAA Control Tower • ILS on 29R
Surface Runways: 29R-11L (9,000′)
29L-11R (7,000′) 02-20 (3,600′)

requirement to properly notify the public of this should also be a condition of approval.

Thank you for allowing us this opportunity to review and comment on this proposed rezoning issue.

Sincerely,

JEFFERSON COUNTY AIRPORT AUTHORITY

David C. Gordon, A.A.E.
Airport Manager

cc:
Jefferson County Airport Authority
Jefferson County Commissioners
Boulder County Commissioners
Governor, State of Colorado
Boulder Daily Camera
Louisville Times
Lafayette News

Appendix 4

Superior expansion near airport is risky, Jeffco officials warn

By SALLY McGRATH
Camera Staff Writer

SUPERIOR — Jefferson County Airport officials once again are warning of dangers to Superior residents if the town approves more housing close to the Broomfield airport.

Airport officials' latest warnings come in response to a request by Rock Creek Ranch developer Richmond Homes that the town amend its Comprehensive Plan to allow construction of as many as 421 multifamily housing units, including condominiums, on five parcels of land now zoned for commercial development. Two of the parcels at Coalton Road and Rock Creek Parkway are in the airport's "critical zone," an area off the end of the runways.

The airport occupies 1,800 acres southeast of Superior and the Rock Creek Ranch subdivision.

"The greatest concentration of air traffic occurs within these zones, and noises associated with aircraft will take place during all hours of the day and night," warned airport manager Dave Gordon. "And the potential for accidents is greatest within these areas."

Superior Town Manager Bruce Williams said Tuesday the Town Board will consider Jeffco's concerns, along with everyone else's, as it reviews Richmond's rezoning proposal. He refused to comment further. A public hearing on the request tentatively has been set for March 4. The meeting will be at Town Hall, 124 E. Coal Creek Drive. This is the latest round in an ongoing battle between airport officials and the town, which in the last 18 months has approved more than 300 houses south of Coalton Road within a mile of the airport's main runway. Some of the houses will be under airspace where planes often turn to gain altitude after taking off, airport officials say.

"The greatest concentration of air traffic occurs within these zones, and noises associated with aircraft will take place during all hours of the day and night . . . the potential for accidents is greatest within these areas."

— Dave Gordon, airport manager

Safety and noise issues also arose last year and prompted the town to investigate the safety of allowing housing in the airport's critical zone. After reviewing Federal Aviation Administration records, Town Board members concluded safety was not a great enough concern to stop development.

Gordon said the new housing will prompt more noise complaints from Superior residents, who already file more against the regional airport than any other area. Of 419 noise complaints registered against Jeffco last year, 156 were from Superior residents, Gordon said.

At minimum, Gordon said, Richmond should notify homebuyers they are moving into homes subject to airport noise.

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